

What is claimed is:

1. A digital copying machine comprising:
  - an image reader that reads an image of the original document and generates image data,
  - 5 a printing unit that prints based on image data,
  - a bus that transmits the image data generated by the image reader to an external computer and that transmits image data from the external computer to the printing unit,
  - 10 a signal generator that generates a signal based on an operation timing of the printing unit, and
  - switching means that, in response to the signal, switches the bus between transmission from the image reader to the external computer and transmission from the external computer to the printing unit.
- 15 2. A digital copying machine as claimed in claim 1, said signal generated by the signal generator is a clock signal issued based on an operation timing for each pixel.
- 20 3. A digital copying machine as claimed in claim 1, said signal generated by the signal generator is a horizontal synchronization signal issued based on an operation timing for each line.
- 25 4. A digital copying machine as claimed in claim 1, said bus includes a read buffer that temporarily stores the image data read

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by the image reader.

5. A digital copying machine as claimed in claim 1, said bus includes a print buffer that temporarily stores the image data sent  
5 by the external computer.

6. A digital copying machine comprising:

an image reader that reads an image of the original document and generates scan image data,

10 a printing unit that prints based on print image data,  
a bus that transmits the scan image data generated by the image reader to an external computer and that transmits the print image data from the external computer to the printing unit,

15 a read buffer that temporarily stores the scan image data read by the image reader.

a print buffer that temporarily stores the print image data sent by the external computer.

20 a signal generator that generates horizontal synchronization signals issued based on an operation timing for each line in the printing unit, and

switching means that, in response to a rise and a fall of the horizontal synchronization signals, switches the bus between transmission from the image reader to the external computer and transmission from the external computer to the printing unit,  
25 whereas scan image data for one line taken out of the read buffer

and print image data for one line taken out of the print buffer  
are alternately transferred via the bus.

7. An image data transfer method which is performed in a digital  
5 copying machine having an image reader that reads an image of the  
original document and generates image data, a printing unit that  
prints based on image data, and a bus that transmits the image data  
generated by the image reader to an external computer and that  
transmits image data from the external computer to the printing  
10 unit, said method comprising the steps of:

generating a signal based on an operation timing of the  
printing unit, and

switching, in response to the signal, the bus between  
transmission from the image reader to the external computer and  
15 transmission from the external computer to the printing unit.

8. An image data transfer method as claimed in claim 7, said  
signal generated by the signal generator is a clock signal issued  
based on an operation timing for each pixel.

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9. An image data transfer method as claimed in claim 7, said  
signal generated by the signal generator is a horizontal  
synchronization signal issued based on an operation timing for each  
line.

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10. An image data transfer method as claimed in claim 7, said bus includes a read buffer that temporarily stores the image data read by the image reader.
- 5       11. An image data transfer method as claimed in claim 7, said bus includes a print buffer that temporarily stores the image data sent by the external computer.